THE PACIFIC MERCIAL ADVERTISER. CH ADVERTISEMENTS WILL BE CHARGED

## Commercial Advertiser.

## THE VOLCANO OF MAUNA LOA, HAWAII.

THE late volcanic eruption on Hawaii, which as been visited and viewed with pleasure by a bree number of our residents—ladies as well as en-has excited so much interest in it. hat we have prepared the following somewhat anded historical sketch of eruptions on that and, which will, we trust, prove interesting at ome as well as abroad.

Whether we view its height and immense size. the beauty and singularity of its dome-like sumnit, or the magnitude and length of its lavi frams, the volcano on Mauna Loa, on Hawaii. some of the most remarkable in the world, rising from the sea to an elevation of nearly 14,000 let. In height it is only exceeded by the active pleanes of Cotopaxi in Equador (18,887 feet) and that of Popocatepetl in Mexico (17,700 feet,) and two or three others in Asia and America. all these rise from elevated table lands, and consequently only show a height of 7 to 9,000 fet from their bases. Mauna Loa, on the conmry, rises in one stapendous mount directly from

Few of our readers are aware that on the sumait of Mauna Loa exists an enormous crater, exalled in dimensions only by that of Haleakala. a East Mani. This crater was first described be its lamented English traveler, Douglas, who sisted it in 1834, and subsequently lost his life the same mountain. The circumference of the first of this crater, as measured by him, is that twenty-four miles, or eight miles in diameg, and its depth 1270 feet. The bottom of this met is rent by terrible chasms, which to all maps yet made are unfathomable. This craer's divided into three lesser ones, the northern f which, known as Mokuaweoweo, has frequently been in action; the others appear to

Earthquakes, though of frequent occurrence on Hamil, are happen so slight as to be barely pereptille, and have never been known to do more mils, upsetting milk-pans, etc. The inhabitms of that island have never manifested the drast fear from earthquakes. They occur, on m sterage, six or eight times a year, though in me years nearly double that number have been need. On the other islands of this group, exenting occasionally on Maui, earthquakes are

Of the three large volcanoes on Hawaii, which were probably in frequent action during the signmenth century, two of them, Mauna Kea and Halalai, are now extinct. Appearances would but that the former censed action first, as the ha an its sides bear an older character. Of Hadai, which was last in action about sixty sus since, Jarves says :

"This mountain was ascended for the first time by puty from Vancouver's vessels, in 1794. Smoke em visible at its greatest elevation. A few ears later, it poured out a volume of hquefied rock, hich overren a wide extent of country, destroying eend villages, fish-ponds, and plantations, finally mening itself in the ocean, where it filled up an atensive bay, twenty miles in length, and formed a transfer headland several miles beyond the old terminates of the coast. The mountain yet looks gloomily,

The natives on Hawaii still narrate to travess the story of the death of a woman and ald, which occurred in one of the last cruptions sa ilmahilai. The base of that mountain had be as it has now, small fishing villages scatterdalong its shore. The last eruption began in famight, and the natives were roused from their smalers by the noise of the lava stream flowing towards their settlement. Nearly all sucmedel in escaping. In one hut, however, the lishand only was awaked, and went out to learn the cure of the noise, but from freight ran off bying his wife and child. The lava approached apilly, but before the woman was waked by the wild stricks of the natives, it had encircled the must found its way to the sea. Escape was inpusible. To attempt to cross the fiery am, was instant death. Nearer and nearer the stram came until it reached the but, ening it on fire. The frightened woman, with breald in her arms, sought refuge in a pandawater-but here safety was only for a moment. The but was fast crumbling to ashes beneath the ber distroyer, which was rapidly approachmy the roots of the tree. There was now no me, the lava had reached the tree and burned is nots, and soon the woman and child fell a serifies to the insatinte goddess Pele.

Magen Lon is the only volcano now active on Hawaiian Islands. Its principal crater is that of Mana on the eastern side, at an elevation of 4.194 feet above the sea. But its eruptions are to this crater, but occur on all sits of the mountain and at various heightsforeignes near the summit, but more frequently between 7,000 and 12,000 feet above the We have found no publication that gives a chronological account of the eruptions on Mana Loa, nor do we know of any such. It rould be an interesting study for some of our tatiquarians to look up and give brief accounts of the eruptions which have occurred since the discovery of this group.

Prof. Dana, in his Geology of the U. S. Explor-Expedition, the most valuable work to which Te have had access, speaks of several early erupof the volcano on Hawaii. We quote his

L 1789. -" The first eruption of Kilauea, of which tradition gives any definite knowledge, occurred about the year 1789, during the wars and conquests of Kamananaha L. It took place between Kilauea and the sa, in a south-easterly direction. It is said to have been accompanied by violent earthquakes and rendiens from the open fissures. It was so violent and entensive that the heavens were completely darkened, and one bundred lives are supposed to have been lass. There are now, over a large near Kilauea, a few miles distant to the south or southeast, great qualities of a light pumice-like scoria with stones

qualities of a light pumice-like scoria with stones and sand, which are believed to have been thrown set at this time." [This eruption is spoken of in Dibble's History, as having destroyed part of the temy of Keson, Kamehameha's rival.]

If 1823.—"The outbreak of 1823, and the feature of the crater after it, are described by Mr. Ellia A large tract of muntry in Kau was flooded, and the stream, when it reached the sea, as I am interned by Mr. Coan, was five to eight miles wide. The earth is said to have been runt in several places, and the lavas were ejected through the flasures, combening their course above ground come miles south of Kihasea. There was no visible communication with the lavas of the crater at the time, but the fact

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at Kapapala. It is spoken of by Douglas, in the Ha-

waiian Spectator, vol. ii, p. 415.]

HI. 1832.—" In June, 1832, an eruption took Kona, For about four weeks this scene continued place both from Kilauea and the summit crater of Mauna Loa. The only ejection at this time of the mountain, Mr. Coan reached the stream of lava belavas of Kilanea to the surface, of which we have definite account, occurred in the east wall of the crater. above the sea. On the evening of the third day, A deep fissure was opened in the wall, from which "as darkness gathered around us, the larid fires of streams flowed out, part back into Kilanea down the the volcano began to glow and to gleam upon us from the slope, and part across into the old crater, which the foot of Mauna Kea, over all the plain between

at the time was overgrown with wood. \* the two mountains, and up the side of Mauna Loa and its snow-crowned summit, exhibiting the apvisited Kilanea, the eruption had taken place. The lavas, which previously had increased so as to fill up to the black ledge and fifty feet above, had sunk down again nearly to the same depth, leaving, as of fresh scoria and slag which lay in wild confusion usual, a boiling caldron at the south end. The further than the eye could reach, some cooled, earthquake of the January (June?) preceding had some half cooled, and some still in fusion." On ent in twain the walls of the crater, on the east side, the ascent they passed fields of scoria, and refrom top to bottom, producing seams from a few gions that were at times steaming and hot, evincing nches to several yards in width, from which the re- igneous action beneath. gion between the two croters (Kilauea and the 'Old Crater') was deluged with lava. About half way up long and ten wide, through which we looked, and at the precipice there was a vent a quarter of a mile in the depth of fifty feet, we saw a vast tunnel or sublength, from which immense masses of lava boiled out terranean canal, lined with smooth, vitrified matter, directly under the hut formerly occupied by Lord forming the channel of a river of fire, which swept Byron's party." See American Journal of Science, down the steep side of the mountain with amazing

probable that, in addition to the ejections from the we cast large stones; these, instead of sinking into the east wall, which are insufficient to account for the viscid mass, were borne instantly out of sight. Mounds, subsidence in the lower pit, there must have been a ridges and cones even thrown up along the line of the subterranean outlet beneath the sea."

of June, 1832, and the mountain continued burning place, near the highest point of the mountain. Here for two or three weeks. The lavas broke out in dif- we found two immease craters, close to each other, of ferent places, and where discharged from so many vast depth, and in terrific action." vents, that the fires were seen on every side of the lome, and were visible as far as Lahaina." See American Journal of Science and Arls, xxv, 201, n a communication from Rev. J. Goodrich, dated 1832, Nov. 17th.

### The Eruption of 1840.

tion of Kilauca is given by Jarves in his Scenes tract a few paragraphs describing the scene : and Scenery :

"On the 20th of May, (1840,) the inhabitants of the direction of the volcano, (Kilauea.) As it progave themselves no further concern about it, attributing it to the burning of brush-wood. The next in motion; but in what manner it was discharging itzelf, was as yet conjecture. The fiery column, sending forth heavy masses of smoke and cinders, n the direction of Hilo, the devastation would be lakes many miles wide. On level ground it moved terrific, grand, magnificent, bursts upon our senses! steam and gasses. slowly and sluggishly, but when it met with a descent, it acquired a velocity of even five miles the hour, consuming every thing before it. Its depth varied according to the nature of the soil, and is from twelve to two hundred feet and upwards. The average descent of the country in the direction it took, is about one hundred feet to the mile. Its general movement, owing to its great consistency, was in immense semi-circular masses or waves. These would roll on, gradually accumulating, until the mass had become too heavy to hold itself together, while the exterior was partially cooled and solidified; then bursting, the liquefied interior flowing out would join a new stream, and by its momentum cleave that asunder. By these accelerated progressive movements, the wave-like ridges were formed, which are everywhere observable on the older dykes. At times, it forced its way under the soil, presenting the singular appearance of earth, rocks, and trees in motion, like the swell of the ocean. It found its way into crevices and subterranean galleries, flowing on until it had filled them up, or met with some impediment. then bursting up the superincumbent sail, it bore off upon its livid surface, like rafts on a river, hillocks with trees still standing upon them; and so great was its viscidity, heavy rocks floated down with the stream. A white man, who was standing upon a small lime bill, near the main stream, absorbed by the spectacle, felt the ground beneath him in motion, and, before he could retire, it had been raised ten to fifteen feet above its former height. He had barely left the spot before it burst open like a shell, and a torrent of fire issued rapidly forth. On the third day of the eruption, three new hills of a mile in length, and from six hun ired to eight hundred feet high, were formed in the direction where the fire first ap-To the windward, the running lava could be approached, near enough for those who visitedit to thrust long poles into the liquefied rock, and draw 10 o'clock, a small light, apparently of burning

peared. In two days they had entirely disappeared. and Kananikio; both sparsery populated, and quite at sea, is represented to have been grand beyond debarren. Consequently, the warning being ample, although a number of small hamlets were overwhe med, and a multitude of swine and poultry perwhe med, and a multitude of swine and poultry per-ished, no lives were lost among the people. The body We cannot give a better description of the beauty of an old woman, who had just died, was consumed. of an old woman, who had just died, was consisted and novelty of this grand sight, than by quoting Mr. The color of the viscid mass was, while flowing sluggishly, of the deepest crimson; when more active, it gishly, of the deepest crimson; when more active, it resembled gore and fresh blood violently stirred together. At Hilo, and places forty miles distant, such and places forty miles distant, such and novelty of this grand sight, than by quoting Mr. Occur combining a great flow of lava with such a cocur combining a grea gether. At Hilo, and places forty miles distant, such as the brilliancy of the light, that the finest print could be easily read at midnight. This moon-tide brightness, converting night into day, prevailed over brightness, converting night into day, prevailed over miles. The next day we made about twelve quote the following description of the commence- ant, and the gir, both night and day, is cool and incould be easily read at midnight. This noon-tide all East-Hawaii, for two weeks, and is represented, miles more, for the most part in the rocky bed of the

# the smoke in dense and massy clouds."

10th of January, and continued down the slopes of Mauna Loa in two streams; one flowed to the westward towards Kona, the other flowed northwestward to the foot of Mauna Kea, and then divid-ward to the foot of Mauna Kea, and then divid-ward to the foot of Mauna Kea, and then divid-wards to the foot of Mauna Kea, and the foot of the river light direct from its source. In the morning of the countries of the second day, we could discern where the eruptions of the second day, we could discern where the eruptions of the second day, we could discern where the eruptions of the second day, we could discern where the eruptions of the second day, we could discern where the eruptions of the second day, we could discern where the eru ward to the foot of Mauna Kea, and then dividing, one part continued on towards Waimea, ing, one part continued on towards Hilo, east north-eastward, and the other towards Hilo, east ward. The branch toward Mauna Kea is deward. The branch toward Mauna Kea is described as twenty-five or thirty miles long, and averaging one and a half miles in width. It aparagraphs averaging one and a half miles in width and the other towards the towards, the cascades, the wide ings, the cascades, the wide ings, the cascades, the cascades, the basins, the cascades, the top, and the t averaging one and a half miles in width. It appears from the accounts that the mountain was pears from the accounts that the mountain was fisured in the two directions, and that the ejections took place from the fissures instead of from the summit craters where it commenced. Says Mr. Coan: "On the morning of Japuary 10th, before day, we discovered a small beacon firenear the top of Mauna Loa. This was soon found to be a new eruption on the north-east slope of the mountain, at an elevation of near thirteen thousand fect."

averaging one and a half miles in width. It appears from the accounts that the mountain was pears from the accounts which are mirrored in its limpid waters. We enlarging and throwing up its volumes of liquid fire enlarged and trowing up its volumes of liquid fire and the flora and catch the fanna of an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward, still adding grandeur and terror as it proceeded, till on the morning of the 31st, about an on onward. Still adding grandeur and terror as it proceed

HONOLULU, HAWAHAN ISLANDS, MARCH 10, 1859.

SIX DOLLARS PER ANNUM. VOL, III, No. 37. WHOLE No. 141.

velocity. As we passed up the mountain we found "From these accounts (Goodrich's, &c.,) it is several similar openings into this canal, into which stream, from the latter of which steam, gases and hot IV. 1832.—"An eruption is stated to have taken place in the summit crater of Mauna Loa on the 20th verge of the great crater where the eruption first took

"Soon we came to an opening of twenty yards

### The Eruption of 1852.

This eruption occurred in February, 1852, and broke out on the north side of Mauna Loa, not a great distance from that of 1855. An account

"During the first night, at the distance of 40 the district detected a smoke and some fire rising, in roar of the heavy surf breaking upon the shore-and stream is very tortuous, making ample detours, and ceeded from an uninhabited and desofate region, they and the flowing lava. An immense column of vapor bends or following the bases of the triangles describand smoke arose from the crater and formed a mag- ed in its course. and its vicinity, were alarmed by the prodigious in- so grand, we quickened our pace in order to gain a with the atmosphere, forming a broad open pall. crease of the flames, in that quarter. They increased nearer view of the scene, believing that in this case, Under this self-made counterpane the continuous

> with the rain, we concluded to spend the night here stiff ning action of the air, they shot up above the distant mountain ridges, and our guardian.

is the expression most congenial to the sentiments of by forty miles an hour. its centre there jets a column of rei hot lava to an All the rest of the way we saw frequent openings ed 300 square miles. It finally ceased and became. immense height, threatening instant annihilation to into the fiery cand, upon whose arched ceiling we quiet during September or October 1856. any presumptuous mortal who should come within the reach of its scathing influence. The crater may

be 1000 feet in diameter and from 100 to 150 feet high. The column of liquid lava which is constantly s stained in the air, from 200 to 500 feet high, and perhaps the highest jets may reach as high as 700 feet! There is a constant an I rapid succession of jets one within another, the masses falling outside and cooling as they fall, form a sort of dark veil. through which the new jets darting up with every degree of force and every variety of form, render this grand fire fountain one of the most magnificent objects that human imagination can conceive of. From the top of the lava jets, the current of heated air carries up a large mass of scoria and pumice, which falls again in constant showers for some miles around

## The Eruption of 1855.

This was fully described in our journal of the issue of Juls 24, 1856, which we copy here:

On the evening of the 11th of August, 1855, about forth specimens. On the leeward side, owing to the brushwood or grass, was seen near the top of Mauna ntensity of the heat, the noxious and deadly vapors Loa, which rapidly increased until the whole heaven and gases, with which the air was impregnated, and reflected its brightness, and turned the night into the showers of hot ashes, sand, and cinders, which day. So bright was it towards morning, that fine were constantly descending, all vegetation for many newspaper print could easily be read by the light. miles was destroyed, and the inhabitants obliged to It was certain that some unusual eruption had begun. flee with the greatest expedition. Fortunately, the This light continued, varying in brightness, for weeks; stream flowed through two 'lands' only, according to symetimes a dense smoky atmosphere obscured in the Hawaiian division of territory, those of Nanawale wholly, but when clear, the sight as seen by sessels and Kanahikio; both sparsely populated, and quite at sea, is represented to have been grand beyond de-

We cannot give a better description of the beauty and novelty of this grand sight, than by quoting Mr. the dense jungle along its banks, and rested at night at the roots of an ancient tree—having made about our issue of Feb. 17th, by Rev. Mr. Lyons, we morning. The days, are however, warm and pleasstream, the water being low. Volcanic smoke filled ment of this eruption :

by eye witnesses, to have been a spectacle of unsur-passed sublimity. It was like the glare of a blazing passed sublimity. It was like the glare of a blazing breeze, and falling into the wild channel we were firmament, and was seen for upwards of a hundred miles at sea. It also rose and spread itself above the miles at sea. It also rose and spread itself above the threading. At night, when the shades gathered over one has seen the real thing itself, there is no room for these deep solitudes, unbroken save by the bellowing miles at sea. It also rose and spread itself above the left mountain peaks, so as to be distinctly visible on the leeward side of the islant, where the wind drove the leeward side of the islant, where the wind drove of the mountain buil, the barking of the wild dog, the grunt of the forest boar, the wing and the note of the haust language of its most impressive and descriptive streams rolling rapidly down the side of the mountain treestless bird, the chirping of the insect, the falling of a time-worn tree, the gargling of the rill, and the attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more than give a few facts. On Sabbath, attempt no more distinct. The reflection of the numerous fiery streams rolling rapidly down the side of the mountain and across the plain lit up the overhanging of the cataract, we made our little bed of Marine Loc. In the accordance of the numerous fiery streams rolling rapidly down the side of the mountain at the play of the insect, the falling of the mountain to the play of the magnetic field the falling of the cataract, we made our little bed of Marine Loc. An eruption took place in January, 1843, which is described by Messrs. Andrews and Coan, which is described by Messrs. Andrews and Coan, and many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we many miles around. As night advanced, and every little stream and light became more and more distinct, the were issuing from two different directions. The whole many miles below us on its way to Hib. But we many miles below us on its way to Hib. But we region, earth and heaven, were lighted up, and even the interior of our houses received the lurid volcanic light direct from its source. In the morning of the stream and light became more and more distinct, the agrand, yet fearful, spectacle. Two streams of fire were issuing from two different sources, and flowing. The whole apparently, in two different sources, and flowing. The whole apparently, in two different sources, and flowing. The whole apparently, in two different sources, and flowing. The whole apparently, in two different sources, and flowing. The whole apparently, in two different sources, and flowing. The whole apparently, in two different sources, and flowing. The whole apparently, in two different sources, and flowing. The whole apparently, in two diffe

mountain, at an elevation of near thirteen thousand feet."

In the mountain, at an elevation of near thirteen thousand feet."

Subsequently," Mr. Coan goes on to say, "the laws appeared to burst out at several different points lave appeared to burst out at several different points lower down the mountain, from whence it flowed off lower down the mountain, from whence it flowed off in the direction of Mauna Kes, filling the valley being about equal to its breadth, and permitted by visiting its immediate vicinity, which description of the same:

"Our camping ground is located on the elevated which we were not prepared to do. From the distance at description of the same:

"Our camping ground is located on the elevated which we observed it, about ten miles and lying between the three great mountains ous points of observation, it appeared to be circular, table land lying between the three great mountains ous points of Hualalai, Mauna Kea and Mauna Loa, sixteen for more than three days. Almost as far as the form Kailua, and some ten miles in an air line from Kailua, and some ten miles in an air line from the crater, which lies over against us on the moderate as estimate, and form the crater can only be description of the same:

"Our camping ground is located on the elevated which we observed it, about ten miles from Kailua, and some ten miles in an air line from Kailua, and some ten miles in an air line from the crater, which lies over against us on the moderate as estimate."

In the mountain sites, over the scanned plants, and form of the crater can only be description of the same:

"Our camping ground is located on the elevated which we observed it, about ten miles from the circular, and some ten miles from Kailua, and some ten miles from the circular.

The actual size and form of the crater can only be description of the same:

"Our camping from Kailua, and some ten miles from Kailua, and some ten miles from Kailua, and some ten miles from the circular.

The actual size and form of the same:

"Our camping from Kai



N. B .- To aid our readers in forming an idea of the present Eruption, we present the above Map, originally executed to represent the Eruption of 1855. The flow is roughly represented by the dark lines running to the northwest or left of Mauna Loa, and to the southward of Kawaihae. \* Encampment, two miles North of the Temple of Umi,

View of the small craters described by Prof. Alexander, as forming Feb. 10th, about quarter

In grandeur and beauty, no eruption within small shruts and trees, growing from ten to twenty

the memory of men now living can compare with feet high. In some places it is level, and covered

the present. It differs from most previous ones the sides of Punch Bowl, only much coarser, while

from 200 to 500 feet. It is seldom that eruptions by overgrowing shrubs. This part of the plain is

of a mile below the crater of Feb. 5, from drawings made by S. C. Armstrong and Frank Judd.

of it, written by Mr. J. Fuller, and dated May stream, and finding a narrow, well-solidified place, selves at the terminal crater and standing on its The best account that we can find of this erup- 12, we find in the Friend for May, 1852, and excupying an hour and a quarter. We now ascended rapidly along the right bank of the stream, sometimes upon it and again skirting it, according to the facilimiles, we heard the rumbling of the volcano, like the ty for travelling or the directness of its course. The saw the sky brilliantly illuminated above the crater sudden zigzags, so that we saved much by cutting off

nificent arc, reflecting the red and purple light of the All this day we came to no open fire. The first day, being Sunday, the several congregations at Hilo fery masses below. Animated by sights and sounds overflowing had stiffened and solidified in contact

On the second day towards night we came to a hut near pyroduct it now flows like oil, at the depth of were unutterable. A vast chasto had opened horibuilt by the party of the previous week-being wet from twenty to one hundred feet, unexposed to the zontally on the top of the mountain, and along this -we enlarged the house, built a fire in one part of At night we slept on the higher regions of the burning cones, about one hundred feet high, rent

It is impossible to give you a complete description We approached the vents with awe, and, looking in this covered way it flows off until it makes its apof what we saw and heard or to draw a picture which down their fiery throats, we heard the infernal surg pearance, as described, some two miles down the side will produce the same impression on your mind that lings and saw the mad rushings of the great molton of the mountain. the original did upon mine. Language, on such an stream, fus if to a white heat. The angle of descent This eruption, which in the quantity of lava occasion is powerless, elequence is dumb and silence was from 3 of to 25 of, and we judged the velocity to

the soul. Yet I will try to give you some facts and The maddening stream seemed to be hurrying on, during the residence of foreigners on these islands, hints which will assist your imagination in its con-ceptions of the wildly interesting scenes we witnessed. a work of wrath and desolation in the realms below. Imagine yourself, then, just ascended to the top of Upward and onward we went-climbing ridge after when within six or seven miles of Hilo. The the above mentioned eminence. Before you, at a ridge, parched with thirst, panting in a rare atmos- stream was more than sixty miles long, and distance of two miles, rises the new formed crater in phere, blinded by smoke, almost scathed by heat and the area covered by the cruption probably exceed-

Eruption of Jan. 23, 1859.

smoking and crackling with heat and escaping gases walked for miles, with the fearful stream rushing We passed several miles up the left verge of the madly beneath our feet. At 1 P. M. we found our-

> This was the high fountain of eruption-the great chimney whose throat goes down immeasurable depths into those fearful realms where man's eye never penetrated, and where he cannot look and live. For nearly five days we had struggle I to gain this point; and now we were here-specks, atoms in creation-obseared by smoke, startled by infernal hissings, amid these wild wonders, these awful displays of power which had scattered such a tempest of fiery hail and raised such a raging sea of molten rocks on these everlasting hills.

am has formed a vast duct; and in this subterra- The grandeur, the sublimity, the terror of the scene yawning fissure stood a series of elongated, jagged and Fear began to seize upon some. The burning torrent was four thousand feet above them; and if it turned blankers and passed a comfortable night. The morning was fine, we soon caught sight of the laya jets and our guardian. dreadful. But on the 1st of June it began to move in a northeasterly direction; and in little short of four days reached the sea, having flowed forty miles from its source. Owing to the inequalities of the country, the rapidity of its movement was not uniform. In some places it was stayed for a consider- at about 10 A M. of the third day to the last ridge to a line of jurged cones with open orifices of from cinders, pumice and ashes, with cracks, crevices, form. In some places it was stayed for a consider- at about 10 A M. of the third day to the last ridge to a line of jurged cones with open orifices of from cinders, pumice and ashes, with cracks, crevices, form. In some places it was stayed for a consider- at about 10 A M. of the third day to the last ridge to a line of jurged cones with open orifices of from cinders, pumice and ashes, with cracks, crevices, at about 10 A M. of the third day to the last ridge to a line of jurged cones with open orifices of from cinders, pumice and ashes, with cracks, crevices, at about 10 A M. of the third day to the last ridge to a line of jurged cones with open orifices of from cinders, pumice and ashes, with cracks, crevices, and the control of the control of the cracks of the control of the cracks of the cracks of the control of the cracks of the crack of the cracks of the c able time, until a valley had been milet up, or preseveral hundred feet below the rim of the crater, and

thrown out, has probably never been surpassed

side of Mauna Loa, distinctly in view. This plain is some 5000 feet above the sea, and is covered with

with a coarse, black sand, similar to that found on

vigorating.

During the daytime the light of the crater and the



This part of the scene was one of true grandeurno words can convey a full idea of it to our readers. ing its form, from the simple gurgling of a spring to the hugest fountain conceivable, is a scene that, only when viewed in its surpassing grandeur, will remain red-hot lava stone, weighing hundreds, if not thousands, of tons, thrown up with inconceivable power oling down the cones and rolling over the precipice, remaining brilliant for a few moments, then becoming cold and black, were lost among the mass of surravelers should be provided. A dense heavy column of smoke continually rose

out from the erater, but always on the north side, and took a north-custerly direction, rising in one continuous column far above the mountain, to a height f perhaps 10,000 feet above the crater. This smoke hovers over that island, and indeed all the islands, and must at times, when the trade wind luils, ob struct the view. During our stay, however, it passed off from the mountain leaving the lower atmosphere quite clear. We watched closely to observe whether any steam could be seen issuing, either from the crater or fro n any of the streams of lava, but could not see anything that could be called steam or vapor, unless occasionally very slight indications along some of the lava streams. Considerable smoke rose along the stream, as the molten lava came in contact with trees and vegetable masses, but the mass of smoke came from the crater itself. Steam was noticed in various places on the plain, issuing from the rocks, and near one of the camps the heat was so intense that a teakettle could be boiled over it. But this steam was undoubtedly cansed by the heat of the flowing lava which was about a mile distant, coming

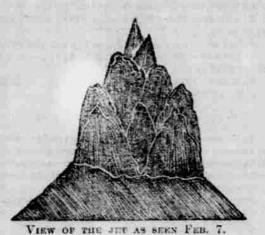
in the fountain-like manner in which the lava the shrubs are so sparse as to allow a horse to travel

On reaching the plain, where it is more level, the ava stream of course moves along more slowly and one general stream less divided than above. The stream which had run into the sea, had apparently seased flowing and was cooled over, so that we crossed and recrossed it in many places, and through the fissures we could see the moiten lava with its red-hot glow an intense heat issuing out from them. In many places the surface was so not that the soles of our shoes would have been burned had we not kept n rapid motion. The length of the lava stream from the crater to where it enters the sea at Waina-

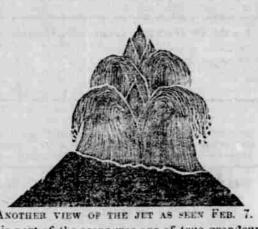
nalii, is estimated to be forty m les. and an eighth of a mile in width, though its width varied a great deal, sometimes broader, sometimes narrower. It was, in fact, a mass or pile of red-hot stones, resembling a pile of coals of fire, borne along by the more liquid lava underneath. As it moved

even 400 feet across it. The rim of the erater is surrounded or made up of cones formed from the stones and scoria thrown out, these cones constantly varying in extent, now growing in size and again all tumbling down. The lava does not simply run out from the side of the crater like water from the side of a bowl, but is thrown up in continuous columns, very much like the Geyser springs, as represented in school geographies.

At times this spouting appeared to be feeble, rising but little above the rim of the crater, but generally, as if eager to escape from the pent-up bowels of the earth, it rose to a height nearly equal to the base of the crater. But the columns and masses of lava thrown out were ever varying in form and height.



Sometimes, when very active, a spire or cone of lava would shoot up like a rocket or in the form of a huge pyramid to a height nearly double the base of the crater. The mouth of the crater being about 250 eet across, the perpendicular column must be 500 feet in height! Then, by watching it with a spyglass, the columns could be seen to diverge and fall in all manner of shapes, like a beatiful fountain."



The molten fiery-redness, ever varying, every changpainted on the memory till death. Large boulders of high above the liquid mass, could be occasionally seen falling outside or on the rim of the crater, tumrounding lava. So awfully grand, so beautiful was this ever varying scene, that the observer cannot help watching it with intense delight and increasing excitement for hours together; the only drawback seing the severe cold of the night, against which

in contact with pools of water in caves or pits.

On leaving the crater, the lava stream does not appear for some distance, say an eighth of a mile, as it has cut its way through a deep ravine or gulch, 80 or 100 feet deep, which it hides from the eye. The first then that we see the lava after being thrown up in the crater is its branching out streams some dis-tance below the fountain head. Instead of running in one large stream, it divides into a great numberperhaps as many as fifty-spreading out over a tract of five or six miles in width. For the first six miles from the crater, the descent is very rapid, and the flow of the lava varies from four to five miles an hour. But after it reaches the plain, where it is level, it moves slower. Her the streams are not so numerous as higher up, there being a principal one which

running off from it. Some of the finest scenes of the flow were the cascades or falls formed in the stream as it flowed down the steep declivities below the crater, and before it reached the plain. There were several of them, and they appeared to be changing and new ones formed different localities as new streams were made. One, however, which appeared without change for two days, was 80 to 100 feet in height. First there was a fall, then below were cascales or rapids. To watch this fall during the night when the bright cherry-red stream of lava was tumbling over it at the rate of ten miles an hour, like water, was a scene not often witnessed, and never to be forgotten. In fact, the lava near its source had all the characteristics of a river of water flowing rapidly along, and gargling with cascules, rapids, currents and falls.

On the afternoon of our arrival at the camping ground, a new stream started some few miles below the crater, which had evidently been dammed up by ome obstruction, and came rushing down with tremenduous noise and fary through the thick jungle which lay in its track, burning the cracking trees, and sending up a thick smoke almost as dense as that from the crater. This stream, from the time it broke away from the embankment, moved along two miles an hour till it reached the vicinity of our camp, when ts progress was checked, and it moved not more than a quarter of a mile an hour. But it formed a magnificent sight. Here was a stream of lava rolling over the plain, twenty to twenty-five feet in height. slowly along, large red boulders would roll down the sides, breaking into a thousand small stones, crush-ing and burning the trees, melting the rocks, and destroying everything which lay in the track. It is impossible to give a true conception of the immense force and power of this lava stream, bearing along as it does an almost inconceivable mass. It reminds us most vividly of the breaking up of the ice in a large river, only the imagination must stretch the comparison and suppose the ice piled up twenty-five feet, and thus borne along by the current beneath, the whole width of the river moving at the same time, crashing and breaking and pilling up same and irre-

After running a distance of about forty miles from its source, the lava stream entered the sea at a small fishing village called Wainanalii, about fifteen miles south of the port of Kawaihae, on the morning of January 31st. The eruption having commenced on the 23d of January, it was

consequently eight days in running over that distance. Of this Rev. Mr. Lyons writes : "The poor inhabitants of Wainanalii, the name of the village where the fire reached the ocean, were aroused at the midnight hour by the hissing and to uring of the approaching fire, and had but just time to save themselves. Some of the houses of the inland portion of the village were partly surrounded before the inmates were aware of their danger. Wainanalii is near the northern boundary of North Kona, and about twelve or fourteen miles from Kawaihae. It is, of course, all destroyed, and its pleasant little harbor all filled up with lava. The volcanic stream was

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gular masses on top. But even this comparison is far below the reality—to be conceived it must be

in others. It crossed the Kona road and interrupted the mail communication. The whole distance of the flow from the crater to the sea is some forty miles." The schooner Kekauluohi was passing this village at the time the stream reached the sea, and several foreigners on board have described the scene as one of terrific grandeur. Perhaps we cannot give a better account of it than to insert here the description given of the meeting of the

one mile wide or more in some places, and much less

lava stream with the sea in the eruption of 1840: "When the torrent of fire precipitated itself into the ocean, the scene assumed a character of terrific and indescribable grandeur. The magnificence of destruction was never more perceptibly displayed than when these ahtagonistic elements met in deadly strife. The mightiest of earth's magazines of fire poured forth its burning billows to meet the mightiest of oceans. For two-score miles it came rolling, tumb. ling, swelling forward, an awful agent of death, Rocks melted like wax in its path; forests crackled and blazed before its fervent heat; the very hills were lifted from their primeval beds, and sank beneath its tide, or were borne onward by its waves; the works of man were to it but as a scroll in the flames; Nature shrivelled and trembled before the irresistible flow. Imagine Niagara's stream, above the brink of the falls, with its dashing, whirling, maily raging and hurrying on to their plunge, instantaneously converted into fire, a gory-hued river of fused minerals; the wrecks of creative matter blazing and disappearing beneath its surface; volumes of hissing thousand vents, which give utterance to as many deep-toned mutterings, and sullen, confined, and ominous clamorings, as if the spirits of fallen demons were struggling against their final doom; gases ng as they hot prison-house; the heavens lurid with flame; the

steam arising; smokes curling upwards from ten atmosphere dark, turgid and oppressive; the horizon murky with vapors, and gleaming with the reflected contest; while cave and hollow, as the hot air swept along their heated walls, threw back the unearthly sounds, in a myriad of prolonged echoes. Such was the scene as the fiery cataract, leaping a precipice of fifty feet, poured its flood upon the ocean. The old line of coast, a mass of compact, indurated lava, whitened, cracked, and fell. The waters recoiled, and sent forth a tempest of spray; they foamed and lashed around and over the melted rock; they boiled with the heat, and the roar of the conflicting agencies grew fiercer and louder. The reports of the exploding gases were distinctly heard twenty-five miles listant. They were likened to discharges of whole broadsides of heavy artillery. Streaks of the intensest light glanced like lightning in all directions; the outskirts of the burning lava as it fell, cooled by the shock, was shivered into millions of fragments, and, borne aloft by strong breezes blowing towards the land, were scattered in scintillant showers far into the country. For three successive weeks, the volcano disgorged an uninterrupted burning tide, with sourcely any diminution, into the ocean. On either side, for twenty miles, the sea became heated, and with such rapidity, that on the second day of the unction fishes came ashore dead in great numbers at Keaau, fifteen miles distant. Six weeks later, at the

#### and sent forth steam at every wash of the waves." PROF. ALEXANDER'S ACCOUNT.

base of the hills, the water continued scalding hot,

MR. FRITOR :- At a time when all information relating to the eruption is eagerly received, a brief sketch of what the company to which I belonged, saw and did, may be interesting to your readers, particularly as we reached the source by a route different from that taken by any other party, excepting perhaps Mr. Vaudry. Our party sailed from Honolulu in the Kinoole, on Tueslay, Feb. 1st, and landed at Kealakekua Thursday noon. During the preceding night we had a distant view of the eruption, like a star, two-thirds up the mountain, with streaks of light branching out from below. Friday was spent in preparations for the jaunt, and on Saturday morning we set out for the crater, from Kuapehu, in a di-

rection nearly east. \* \* As we began to emerge from the woods we had a fine view of the jet, playing at a distance of perhaps twenty-five miles, to the height, as we afterwards estimated, of three hundred feet. It was of a deep red color, in form and movement exactly like a fountain, and was accompanied by immense columns of steam. It was soon concealed from our view, however, by the flanks of Mauna Loa. About twelve miles from the coast road we reached a watering place

called Waiio, which we found nearly dry.

Here we were obliged to send back our horses and pack oxen and proceed on foot. Our guide then led varies and is very tortuous-from an eighth to a caus in a direction about E. S. E. across a rugged tract quarter of a mile in width, with frequent branches of clinkers to a cave, eight miles from Waiio, where we encamped for the night. This cave had formed part of the channel of a subterranean stream, which left a series of deep caverns, fissures and pits to mark its ceurse.

During the afternoon, the party, being in want of water, pushed on six or eight miles S. S. E. to a well known watering place called Prapuawai, where they encamped. At this point the cold was so intense at night, that a crust of ice half an inch thick was formed in our calabashes, and the berries around our camp were frozen has I. As far as we could judge by the horizon, we were about a thousand feet lower than the summit of Hualalai, and accordingly, 8030 feet above the sea. On account of the failure of this spring, as well as for other reasons, it was thought expetient to divide the party. Half of them, headed by Pres. Beckwith, returned to Kaawaloa, and went out to the lava flow by Gov. Adams' road.

The advance party started again directly for the crater on Wednesday morning, consisting of twelve white men and thirty kanakas, with a week's provisions. During this day's march the rarity of the atmosphere affected us all more or less, but especiall our natives, who seemed unable to carry their usus loads. We were slowly ascending nearly all day. The vegetation became more and more scanty, till it

almost entirely disappeared.

About noon we crossed a recent flow, perhaps that of 1847, and at 4, P. M., (Feb. 9,) after a march of about twenty miles N. E., we suddenly found the two active craters, and the lava stream in its whole extent, immediately below us. We encamped a mile and a half S. W. of the larger cone, on an eminence commanding a fine view of the whole eruption. Large banks of snow and ice were found within a quarter of

a mile from our camp, so that all anxiety on the score of water was soon dissipated.

The sight which we enjoyed that night will not be forgotten by any of the party. The jet had ceased to play, but the two craters were blowing off enormous columns of steam, and showers of red-hot scoria, with

columns of steam, and showers of red-hot scoria, with a noise like that of heavy surf, or occasionally like discharges of artillery. Half a mile below the lower crater appeared a cataract of fire, continued for several miles in a winding river of light, which then divided into a net work of branches, enclosing numerous islands. The branch towards Kawaihae still gave a dult red light in a few spots, but the force of the stream seemed to be directed west, towards Kona.

Two new streams seemed to be ranning a race, as it were, in that direction, and we could see the forest blazing before them. The next day (10th) was rainy, and the fog so dense that we could not travel. We moved down a couple of miles, and encamped on the fresh baya stream, half a mile south of the principal cone. By the heat of the steam cracks we boiled our coffee, roasted meat and potatoes, and melted the snow, which our natives had brought down in sacks, till we filled all our water containers. During the day parties explored the craters.

The two principal cones are about quarter of a mile apart, the upper one bearing B. B. from the other